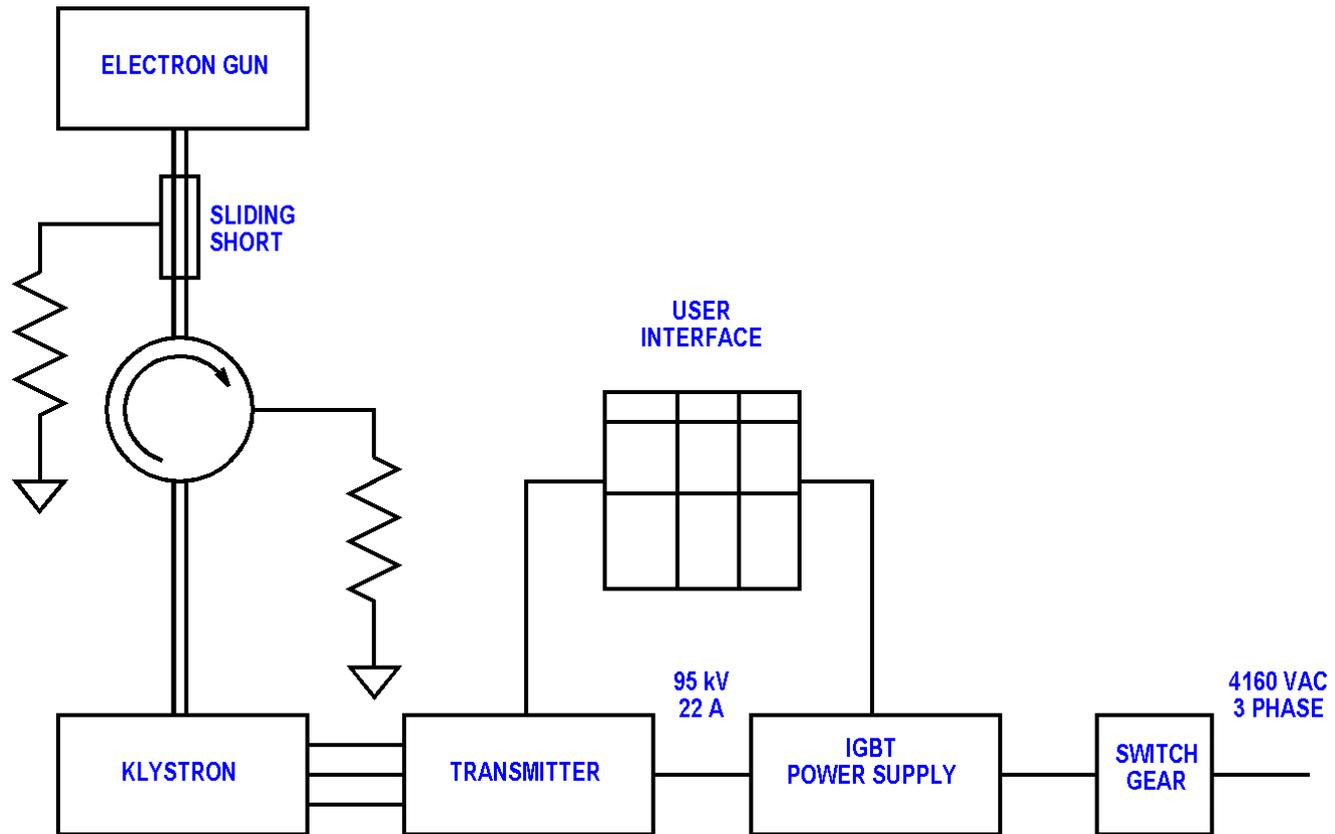
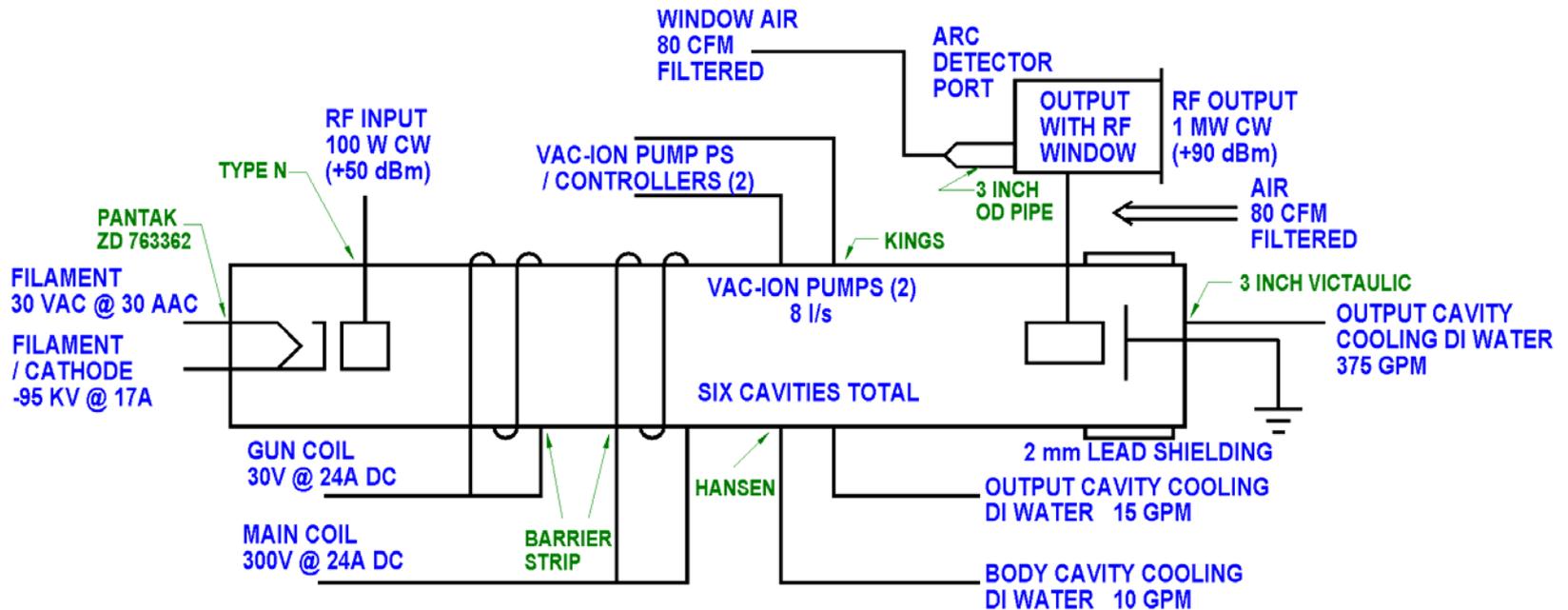


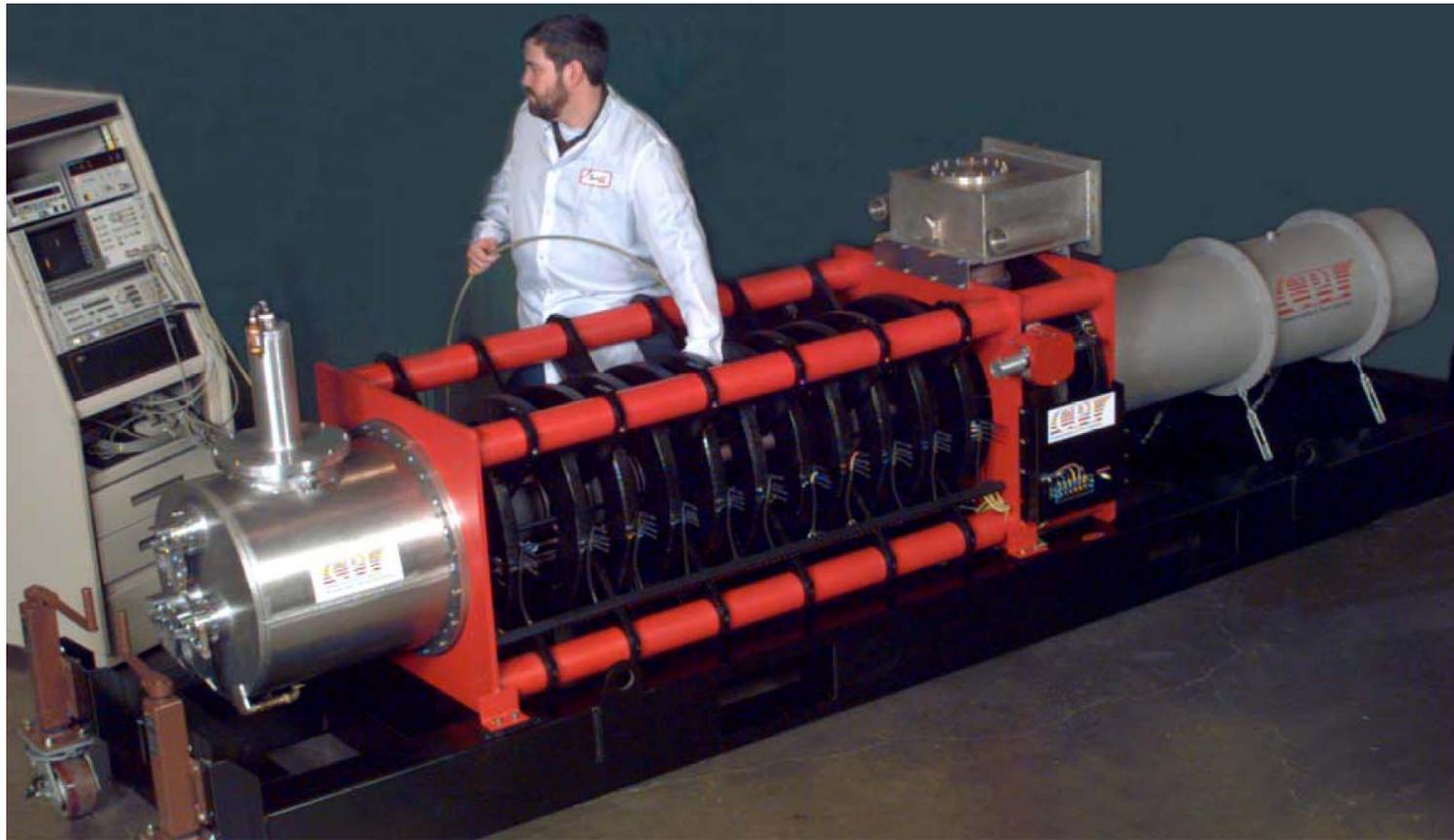
1 MW SYSTEM



Klystron Block Diagram



CPI 1 MW Klystron

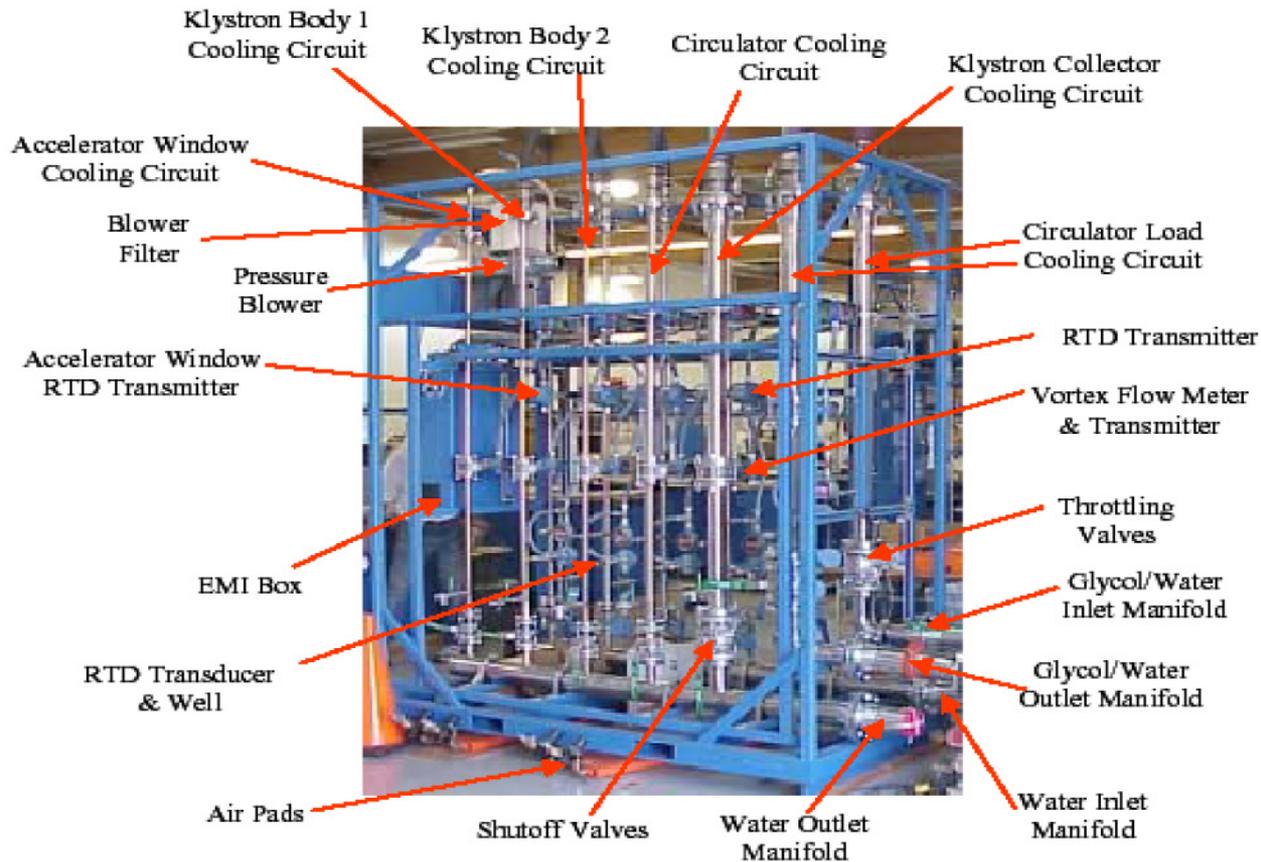


Transmitter

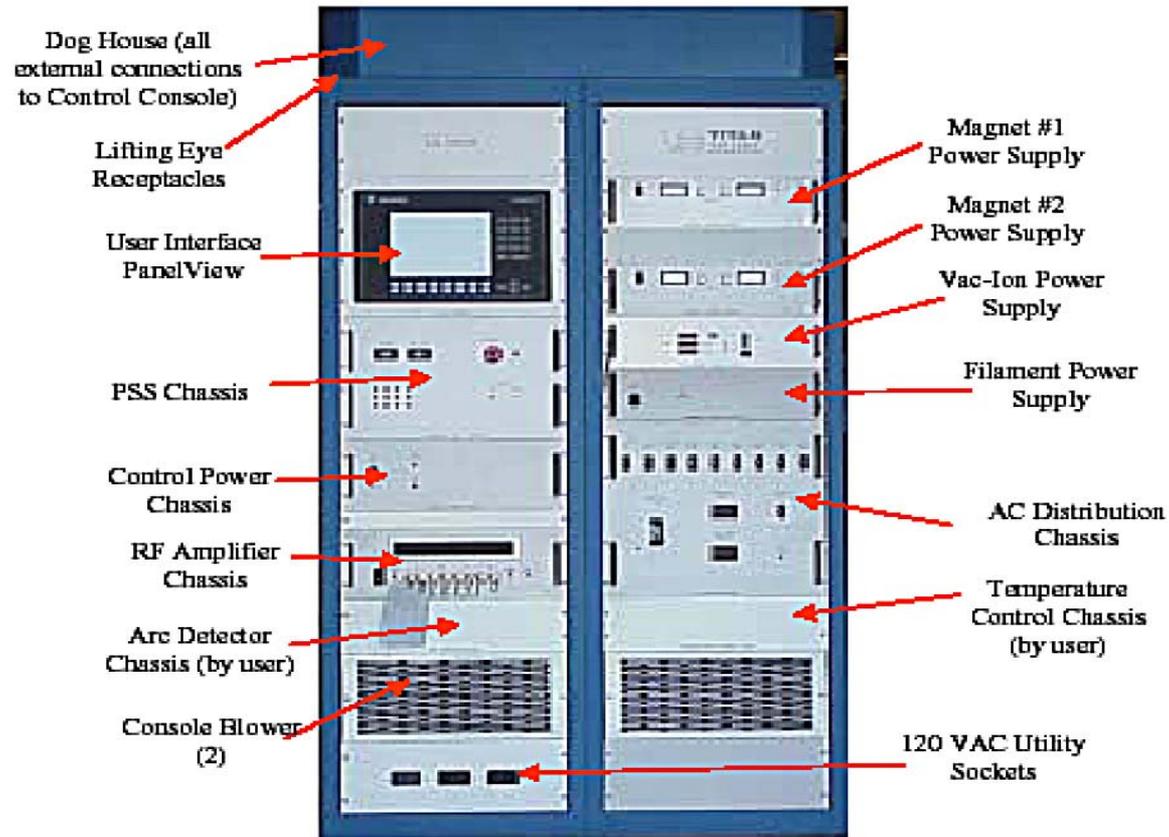
Provides Monitoring and Support Functions for Klystron

- User interface
- RF amplification
- Focusing magnet power supplies
- Vacuum pump controllers
- Filament power supplies
- Cooling water monitoring
- Cooling air fans and monitoring

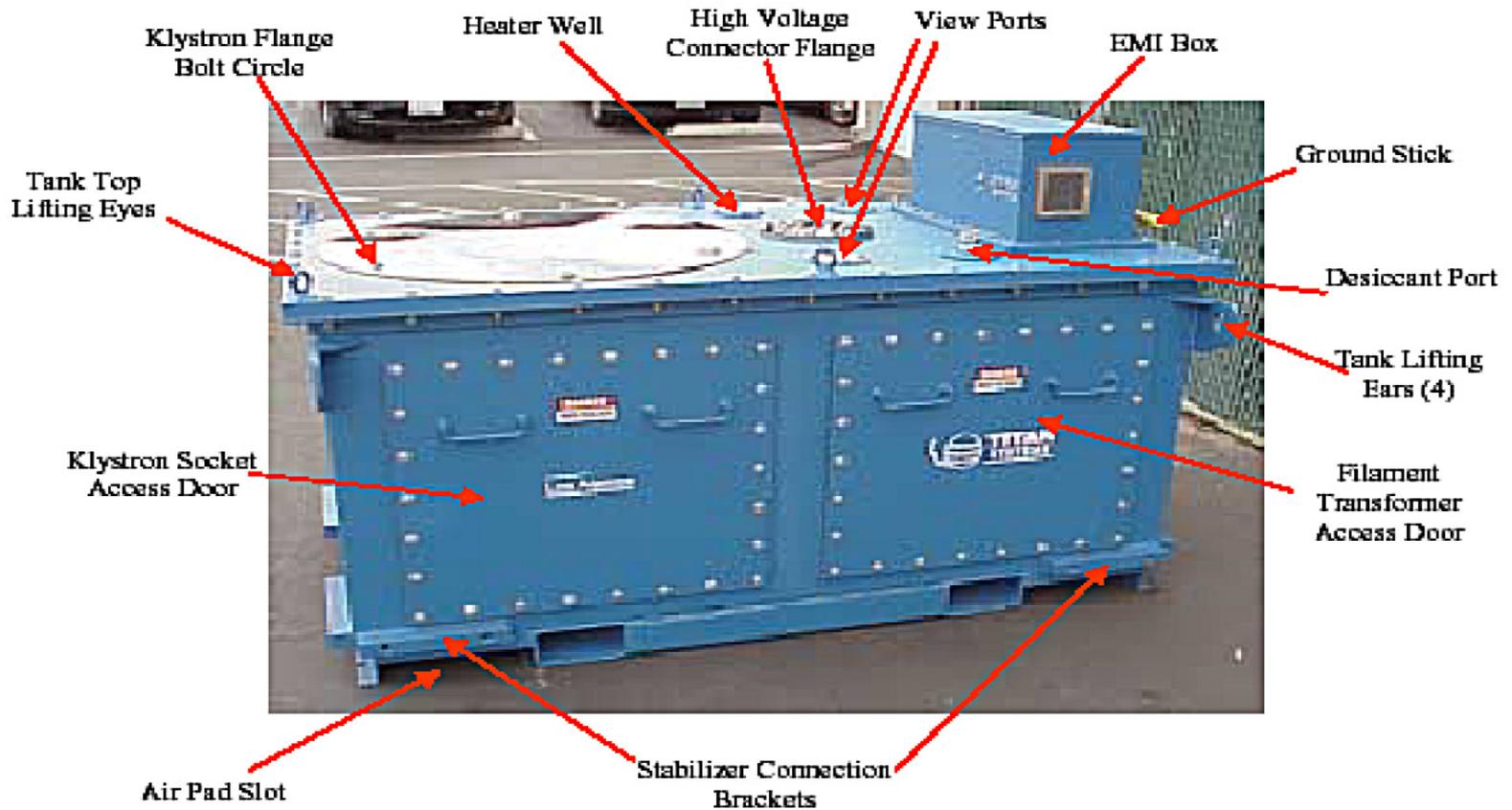
Water Cooling



Transmitter Control Rack



HV Tank



HV Power Supply

Two different designs are being considered – an SCR system with a crowbar, and an IGBT based system that uses a Fast Shut Down Mode (FSDM) instead of a crowbar.

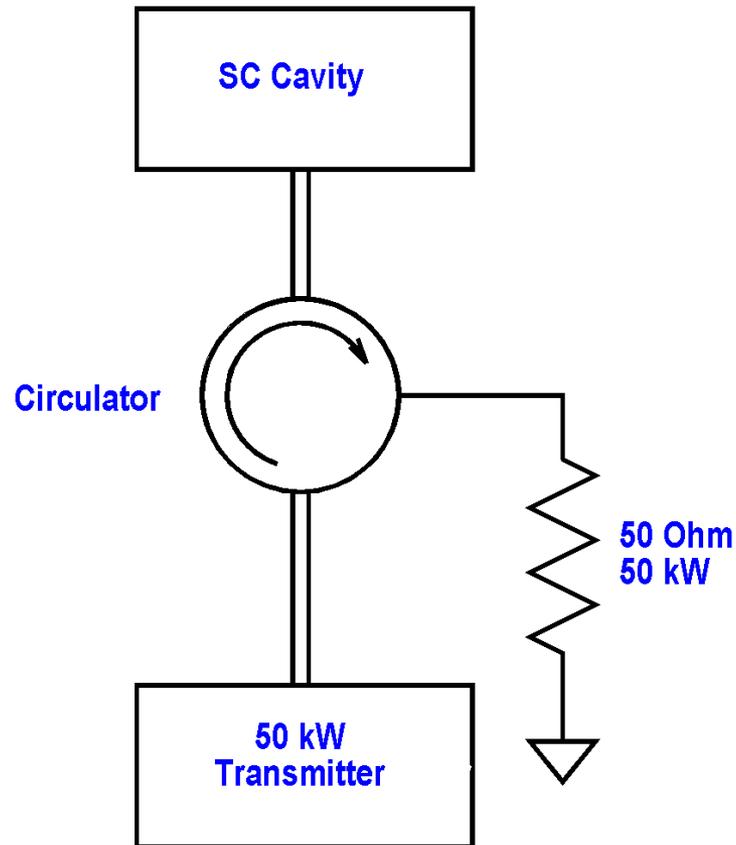
- Both designs have been made – the SCR unit is currently in use at LANL.
- SCR uses a 1500 VAC input, the IGBT system uses a 4160 VAC input.
- SCR design is water cooled, IGBT design is air cooled only.
- Control of either supply is via fiber optic lines to user interface. This interface connects to transmitter user interface.

Equipment Vendors

Seven vendors were invited to submit proposals on both the power supplies and transmitters. All companies have built equipment similar to our requirements. Titan built the SCR units for LANL. Continental built the IGBT units. Bids are due by the end of July 2004

- Diversified Technologies, Inc.
- DRS Broadcast Technology, Inc. - formerly Continental Electronics
- Heinzinger electronic GmbH
- ISA Corporation
- F.u.G. Elektronik GmbH – Locally, Magnavolt Technologies, Inc
- Thales
- Titan Systems Corporation

SC Cavity RF System



50 kW transmitter

